



**State of Louisiana
Coastal Protection and Restoration Authority**

2017 Annual Inspection Report

for

Naomi Outfall Management

State Project Number BA-03c
Priority Project List 5

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Jefferson Parish

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for
Naomi Outfall Management
(BA-03c)**

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I. Introduction

The Naomi Outfall Management Project (BA-03c) is located on the west bank of the Mississippi River, south of Lafitte, Louisiana. Although the project features are located entirely in Jefferson Parish, the project outfall area encompasses 27,135 acres in Jefferson and Plaquemines Parishes. Specific project features are located on two streams – Goose Bayou Canal and Bayou Dupont – which connect the Barataria Bay Waterway to the Pen (Appendix A).

II. Project Description and History

The Naomi Siphon went into operation in February, 1993 and has delivered an average of 997 cfs of fresh river water (when operating) into the marshes and streams east of the Pen. Much of this fresh water eventually exits the project area via Goose Bayou Canal and Bayou Dupont Canal which connect the Pen with the Barataria Waterway. During periods of high tide, reverse flow occurs and high-salinity water from the Barataria Waterway enters the Pen via the two subject canals. These two canals provide an avenue for loss of fresh river water from the project area and intrusion of high-salinity water into the project area.

The present project, which consists of fixed crest weirs with boat bays, restricts the hydrologic connections between the Pen and the Barataria Waterway. This restriction is intended to hold diverted water and nutrients in the project area, while restricting the high salinity waters from the Barataria Waterway. The weirs are designed to moderate or dampen the interchange of water into and out of the Pen through Goose Bayou Canal and Bayou Dupont Canal. Thus, retention of sediment-rich fresh siphon water in the outfall area is maximized, and intrusion of high-salinity water is minimized.

Project construction began on June 1, 2002, and was completed on July 15, 2002. Project life is estimated to be 20 years. Annual project inspections are planned.

The principal project features include:

1. One stone weir at **Goose Bayou Canal**
 - a. Total length of weir = 458 ft.
 - b. Bottom width of boat bay = 30 ft.
 - c. Boat bay bottom elevation= -5 ft. (NAVD 88)
 - d. Weir crest = +1 ft. (NAVD 88)
 - e. Rock placed directly on geotextile
 - f. Rock rip rap = 3,967 tons
 - g. Geotextile = 2,851 yards
 - h. Rock conforms to Rock Type 1 of Material Specification 523 with a gradation of:



Percent Lighter Than	Rock Unit Weight
100	700 lbs
50-100	300 lbs
15-50	150 lbs
0-15	45 lbs

- i. Four (4) - 4-piling clusters with navigation aid lights and warning signs
- j. Six (6) single pilings with warning signs
- k. Thirty-two buoys and associated stainless steel cable

2. One stone weir at **Bayou Dupont Canal**

- a. Total length of weir = 302 ft.
- b. Bottom width of boat bay = 30 ft.
- c. Boat bay bottom elevation = -5 ft. (NAVD 88)
- d. Weir crest +1 ft. (NAVD 88)
- e. Rock placed directly on geotextile
- f. Rock rip rap = 8,505 tons
- g. Geotextile = 3,374 yards
- h. Rock conforms to Rock Type 1 of Material Specification 523 with a graduation of:

Percent Lighter Than	Rock Unit Weight
100	700 lbs
50 -100	300 lbs
15-50	150 lbs
0-15	45 lbs

- i. Four (4) 4-pile clusters with day mark navigation signs and three (3) of the piling clusters have navigation aid lights.
- j. Three (3) single pilings with warning signs (reduced from five (5) in 2006 repair project)
- k. Twenty-two warning buoys with stainless steel cable
- l. Two (2) marker buoys with warning markings and internal radar reflectors (added during 2006 repair project in place of two (2) single pilings with warning signs).

On June 20, 2006, a contract was awarded to place two warning buoys in places where warning signs were damaged and to replace 5 navigation lights. This project was completed on October 4, 2006.

A second maintenance contract was awarded May 27, 2015 for the replacement of the barrier float buoys and navigation signs at the Goose Bayou weir. Repair work was completed August 10, 2015.

III. Inspection Purpose and Procedures

The purpose of the annual inspection of the Naomi Outfall Management Project (BA-03c) is to evaluate the constructed project features, to identify any deficiencies, and to prepare a report detailing the condition of project features and providing recommended corrective actions if needed. If corrective actions are required, CPRA shall provide in the report a detailed cost estimate for engineering, design, supervision, inspection, and construction contingencies, and an assessment of the urgency of such repairs (O&M Plan, December 24, 2002). The annual inspection report also contains a summary of maintenance projects and an estimated projected budget for the upcoming three (3) years for operation, maintenance and rehabilitation. The three (3) year projected operation and maintenance budget is shown in Appendix C. A summary of past operation and maintenance projects performed since construction of the Naomi Outfall Management Project is provided in Section II.

An inspection of the Naomi Outfall Management Project (BA-03c) was held on November 2, 2017, by Clay Worley and Barry Richard of CPRA, along with Quin Kinler of NRCS. Photographs of that inspection are included in Appendix B of this report.

IV. Inspection Results

BAYOU DUPONT CANAL WEIR

The structure was returned to design condition following the construction of the South Shore of the Pen (BA-41) Project.

Rock Riprap

The rock riprap appeared to be in good condition (Photo #1).

Pile Clusters

One of the pile clusters was damaged by Frisco Construction and was being repaired at the time of the inspection (Photo #2). Another pile cluster appeared to be damaged and was leaning (Photo #3). The remaining pile clusters appeared to be in good condition.

Warning Signs and Day Board Navigation Signs

Warning signs appeared to be in good condition (Photo #1).

Navigation Aid Lights

One of the navigation aid lights was missing (Photo #4). Routine navigation light maintenance is performed under a state-wide contract.

Regulatory Marker Buoys

One of the regulatory marker buoys was missing (Photo #1).

GOOSE BAYOU CANAL WEIR

Rock Riprap

The structure has settled an average of 2 feet since construction, resulting in most of the rock being submerged below the water surface (Photo #5). As the weir lies within the footprint of the planned Lafitte Ring Levee, no rock maintenance is anticipated at this time.

Pilings

Timber pilings appeared to be in good condition. Reflective tape was replaced as part of the 2015 maintenance event (Photos #6 & #7).

Warning Signs and Day Board Navigation Signs

Navigation markers and barrier float cable assemblies were replaced in 2015. Warning signs were in good condition (Photos #6 & #7).

Navigation Aid Lights

No defects were observed with the navigation aid lights (Photos #6 & #7). Maintenance of these lights is covered under a separate state-wide contract.

V. Conclusions

Overall, the Naomi Outfall Management project is functioning properly and is in good condition.

VI. Recommendations

Inspection and assessment of project features should continue on an annual basis.

Immediate Repairs

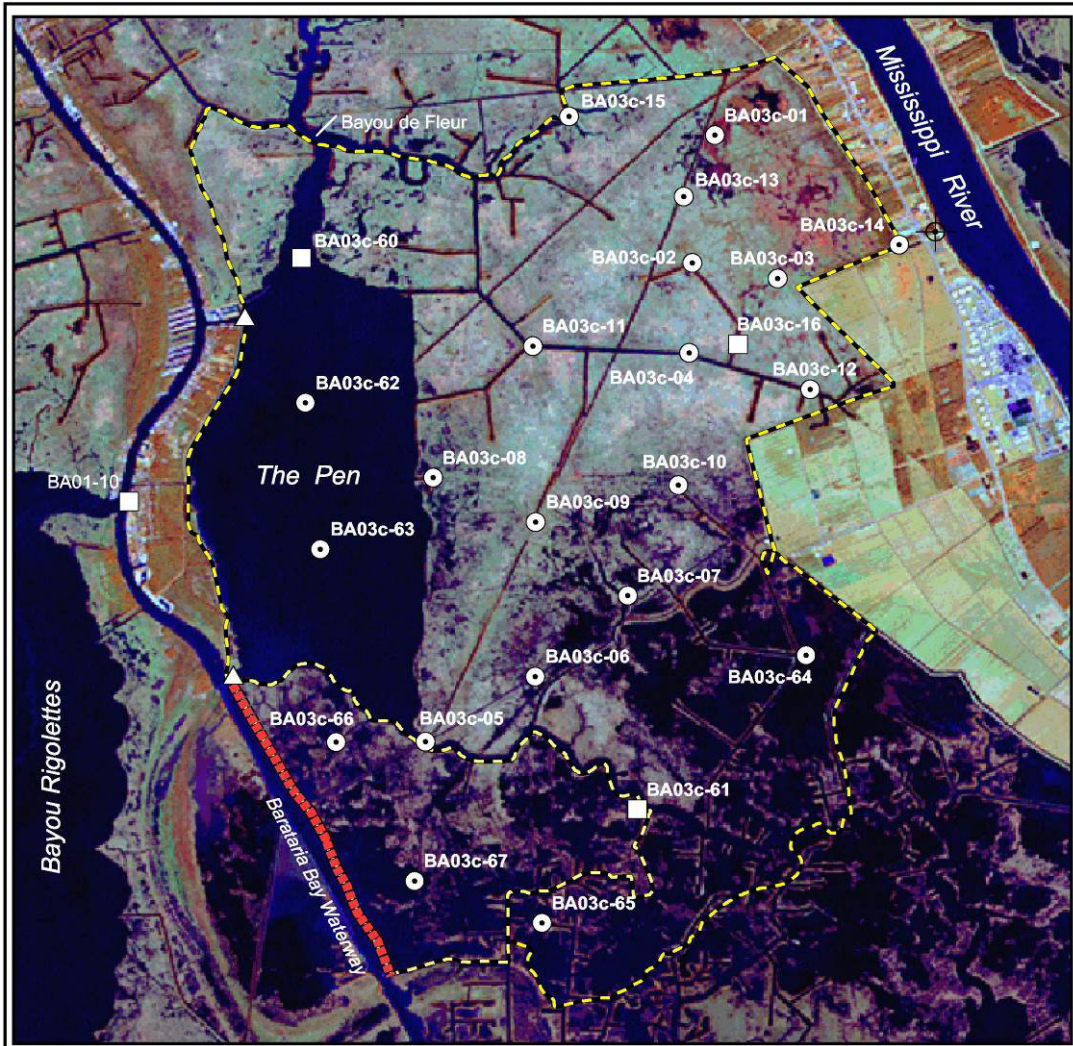
- Perform a survey of the structures to determine their status as we move toward the End of Project Life.

Programmed Maintenance

- Navigation lights are inspected and maintained under state-wide contract.

Appendix A

Project Features Map



1 0.5 0 1 Miles



Data Source:
 U.S. Geological Survey
 National Wetlands Research Center
 Coastal Restoration Field Station
 Louisiana Department of Natural Resources
 Coastal Restoration Division
 2000 TM Satellite Imagery



Legend

- Monthly Salinity and Continuous Recorder Stations
- Monthly Salinity Stations
- ▬▬▬▬ rock dike
- ⊕ siphon
- △ weirs
- ▬▬▬▬ BA-03c and BA-26 Project Boundaries

Appendix B

Photographs



Photo #1 – Rock riprap, warning signs, and buoys (Bayou Dupont)



Photo #2 – Pile clusters (Bayou Dupont)



Photo #3 – Pile cluster (Bayou Dupont)



Photo #4 – Missing Navigational Aid Light (Bayou Dupont)



Photo #5 – Rock riprap (Goose Bayou)



Photo #6 – Piling, warning signs, warning buoys (Goose bayou)



Photo #7 – Navigational Aid lights, piling, warning signs (Goose Bayou)

Appendix C

Three Year Budget Projection

Naomi Outfall Management Project (BA-03c)

Federal Sponsor: NRCS
Construction Completed : 8/2002
PPL 5

Current Approved O&M Budget	Year 0	Year - 1	Year -2	Year -3	Year -4	Year -5	Year -6	Year -7	Year -8	Year -9	Year -10	Year -11	Year -12	Year -13	Year -14	Year -15	Year -16	Year - 17	Year -18	Year -19	Project Life
June 2009	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	Budget
State O&M																					\$488,980
Corps Admin																					\$0
Federal S&A																					\$0
Total																					\$488,980

Projected O&M Expenditures	Remaining Project Life					
Maintenance Inspection	\$4,000	\$4,104	\$4,211	\$4,320	\$4,432	\$21,067
General Maintenance						\$0
Surveys						\$0
Navigation Aid Maintenance	\$17,173	\$17,619	\$18,077	\$18,547	\$19,030	\$90,446
Federal S&A						\$0
Maintenance/Rehabilitation						\$0
E&D						\$0
Construction						\$0
Construction Oversight						\$0
Total	\$21,173	\$21,723	\$22,288	\$22,867	\$23,462	\$111,513

O&M Expenditures from COE Lana Report (Oct 2017)	\$287,395	Current O&M Budget	\$488,980	Current Project Life Budget	\$488,980
State O&M Expenditures not submitted for in-kind credit	\$85,533 estimated	Less Expenditures	\$396,419	Total Projected Project Life Budget	\$507,933
Federal Sponsor MIPRs (if applicable)	\$23,491	Remaining Available O&M Budget	\$92,561	Project Life Budget Surplus (Shortfall)	(\$18,953)
Total Estimated O&M Expenditures (as of Oct 2017)	\$396,419				

Appendix D

Field Inspection Form

FIELD INSPECTION CHECK SHEET

Project No. / Name: Naomi Outfall Management

Date of Inspection: 11/1/2017 Time: 12:00 PM

Structure No. Bayou Dupont Canal

Inspector(s): Worley, Kinler, Richard

Structure Description: Stone Weir

Water Level: Inside: N/A Outside: 1.50'

Type of Inspection: Annual

Weather Conditions: Mostly sunny, light wind

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Rock Riprap	Good	none	N/A	#1	Appeared to be in good condition
Pile Clusters	Varying	See Remarks	None	#2,#3	One pile cluster was under repair, another was damaged
Warning Signs and Day Board Navigation Signs	Good	none	None	#1	Appeared to be in good condition
Navigation Aid Lights	Varying	See Remarks	None	#4	One navigation aid light was missing
Warning Buoys	Varying	See Remarks	None	#1	One regulatory marker buoy was missing

FIELD INSPECTION CHECK SHEET

Project No. / Name: Naomi Outfall Management

Date of Inspection: 11/1/2017 Time: 11:15 AM

Structure No. Goose Bayou Canal

Inspector(s): Worley, Kinler, Richard

Structure Description: Stone Weir

Water Level: Inside: N/A Outside: 1.50'

Type of Inspection: Annual

Weather Conditions: Mostly sunny, light wind

Item	Condition	Physical Damage	Corrosion	Photo #	Observations and Remarks
Rock Riprap	Good	None	N/A	#5	Most of rock structure was below water surface elevation.
Creosote Piling	Good	None	N/A	#6, #7	No defects noted.
Warning Signs and Day Board Navigation Signs	Good	None	None	#6, #7	No defects noted.
Navigation Aid Lights	Good	None	None	#7	No defects noted. Maintenance of navigation lights is covered under state-wide contract.
Warning Buoys	Good	None	None	#6, #7	No defects noted.